

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An image processing system comprising:

a plurality of image projection means for projecting images based on image signals so that the images are displayed in a manner to overlap one another on a projection target area, the image projection means being disposed at different positions;

sensing means for sensing a predetermined image projected by each of the plurality of image projection means and generating sensing information;

overlap-area detecting means for detecting projection areas, in each of which the predetermined image is displayed, for detecting a temporary overlap area, on which the projection areas overlap one another, and for detecting an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating means for generating correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction means for correcting image signals, which is inputted into the plurality of image projection means, based on the correction information, so that an image is projected into the overlap area,

the plurality of image projection means project images only into the overlap area based on the corrected image signals.

2. (Original) The image processing system as defined in claim 1,

wherein the plurality of image projection means project projection area calibration images at different points of time, and

wherein the overlap-area detecting means determines a peak position that is a brightest position in each of the projection area calibration images that have been sensed, based on the sensing information for the projection area calibration images, and detects the projection areas based on the peak position.

3. (Original) The image processing system as defined in claim 2,

wherein the overlap-area detecting means detects the overlap area by adding a brightness index value of a pixel or a pixel block in each of the projection areas that have been detected.

4. (Original) The image processing system as defined in claim 1,

wherein the overlap-area detecting means detects a rectangular overlap area which is the overlap area, aspect ratio of which has been adjusted, and

wherein the correction information generating means generates, as the correction information, one of information that indicates positions of four corners in the rectangular overlap area and positions of four corners in each of the projection areas, information that indicates the positions of the four corners in the rectangular overlap area, and information that indicates differential values between the positions of the four corners in the rectangular overlap area and the positions of the four corners in each of the projection areas.

5. (Currently Amended) The image processing system as defined in claim 1, further comprising:

a color reproduction means for correcting color and brightness in an image based on color reproduction information, in order to reproduce color and brightness of an target image,

wherein the plurality of image projection means projects color reproducing calibration images for correcting the color and brightness of an image in a manner to overlap

one another into the overlap area, on condition that the image signals are corrected by the projection area correction means and an image is projectable only into the overlap area,

wherein the sensing means senses the color reproducing calibration images that have been projected into the overlap area,

wherein the correction information generating means generates the color reproduction information based on the sensing information for the color reproducing calibration images, and

wherein the color reproduction means corrects the image signals based on the color reproduction information.

6. (Currently Amended) An image processing system comprising:

a plurality of image projection sections which project images based on image signals so that the images are displayed in a manner to overlap one another on a projection target area, the image projection sections being disposed at different positions;

sensing section which senses a predetermined image projected by each of the image projection sections and generates sensing information;

overlap-area detecting section which detects projection areas, in each of which the predetermined image is displayed, detects a temporary overlap area, on which the projection areas overlap one another, and detects an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating section which generates correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction section which corrects image signals, which is inputted into the image projection sections, based on the correction information, so that an image is projected into the overlap area,

the plurality of image projection sections project images only into the overlap area based on the corrected image signals.

7. (Currently Amended) A projector comprising:

image projection means for projecting an image based on image signals to display the image in a manner to overlap another image projected from another projector at a projection target area, the image projection means being disposed at a different position from a position in which the other projector is disposed;

sensing means for sensing a predetermined image projected onto the projection target area and generating sensing information;

overlap-area detecting means for detecting projection areas, in each of which the predetermined image is displayed, for detecting a temporary overlap area, on which the projection areas overlap one another, and for detecting an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating means for generating correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction means for correcting image signals, based on the correction information, to project an image only into the overlap area.

8. (Currently Amended) A projector comprising:

an image projection section which projects an image based on image signals to display the image in a manner to overlap another image projected from another projector at a projection target area, the image projection section being disposed at a different position from a position in which the other projector is disposed;

sensing section which senses a predetermined image projected onto the projection target area and generates sensing information;

overlap-area detecting section which detects projection areas, in each of which the predetermined image is displayed, detects a temporary overlap area, on which the projection areas overlap one another, and detects an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating section which generates correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction section which corrects image signals, based on the correction information, to project an image only into the overlap area.

9. (Currently Amended) A projector comprising:

image projection means for projecting an image based on image signals to display the image in a manner to overlap another image projected from another projector at a projection target area, the image projection means being disposed at a different position from a position in which the other projector is disposed;

sensing means for sensing a predetermined image projected onto the projection target area and generating sensing information;

overlap-area detecting means for detecting projection areas, in each of which the predetermined image is displayed, for detecting a temporary overlap area, on which the projection areas overlap one another, and for detecting an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating means for generating correction information which indicates information for positions of the projection areas for the projector and the other projector and a position of the overlap area;

projection area correction means for correcting image signals, based on the correction information, to project an image only into the overlap area; and

communication means for transmitting the correction information for the other projector to the other projector.

10. (Currently Amended) A projector comprising:

an image projection section which projects an image based on image signals to display the image in a manner to overlap another image projected from another projector at a projection target area, the image projection section which being disposed at a different position from a position in which the other projector is disposed;

a sensing section which senses a predetermined image projected onto the projection target area and generates sensing information;

an overlap-area detecting section which detects projection areas, in each of which the predetermined image is displayed, detects a temporary overlap area, on which the projection areas overlap one another, and detects an overlap area which is within the temporary overlap area, based on the sensing information;

a correction information generating section which generates correction information which indicates information for positions of the projection areas for the projector and the other projector and a position of the overlap area;

a projection area correction section which corrects image signals, based on the correction information, to project an image only into the overlap area; and

a communication section which transmits the correction information for the other projector to the other projector.

11. (Currently Amended) A computer-readable program for causing a computer to function as:

image projection means for projecting an image based on image signals to display the image in a manner to overlap another image projected from another projector at a

projection target area, the image projection means being disposed at a different position from a position in which the other projector is disposed;

sensing means for sensing a predetermined image and generating sensing information;

overlap-area detecting means for detecting projection areas, in each of which the predetermined image is displayed, for detecting a temporary overlap area, on which the projection areas overlap one another, and for detecting an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating means for generating correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction means for correcting image signals, based on the correction information, to project an image only into the overlap area.

12. (Currently Amended) An information storage medium which stores a computer-readable program for causing a computer to function as:

image projection means for projecting an image based on image signals to display the image in a manner to overlap another image projected from another projector at a projection target area, the image projection means being disposed at a different position from a position in which the other projector is disposed;

sensing means for sensing a predetermined image and generating sensing information;

overlap-area detecting means for detecting projection areas, in each of which the predetermined image is displayed, for detecting a temporary overlap area, on which the projection areas overlap one another, and for detecting an overlap area which is within the temporary overlap area, based on the sensing information;

correction information generating means for generating correction information which indicates information for positions of the projection areas and a position of the overlap area; and

projection area correction means for correcting image signals, based on the correction information, to project an image only into the overlap area.

13. (Currently Amended) An image processing method for displaying images from a plurality of projectors in a manner that the images overlap one another, the method comprising:

projecting projection area calibration images from the projectors onto a projection target area at different points of time using the projectors, at a time of calibration;

sensing the projection area calibration images projected by the projectors and generating sensing information;

converting sensing information in sensing coordinates into sensing information in projection target area coordinates, based on the sensing information that has been generated;

detecting projection areas, in each of which the projection area calibration image is projected, based on the sensing information that has been converted, detecting a temporary overlap area, on which the projection areas overlap one another, and detecting an overlap area which is within the temporary overlap area, based on the sensing information;

generating correction information which indicates information for positions of the projection areas and a position of the overlap area;

correcting image signals which is inputted into the projectors based on the correction information, so that an image is projected into the overlap area; and

projecting images only into the overlap area by the projectors based on the image signals that have been corrected.

14. (Original) The image processing method as defined in claim 13, further comprising:

determining a peak position that is a brightest position in each of the projection area calibration images that have been sensed, based on the sensing information for the projection area calibration images, and converting sensing information in sensing coordinates into sensing information in projection target area coordinates, based on the peak position.

15. (Original) The image processing method as defined in claim 14, further comprising:

detecting the overlap area by adding a brightness index value of a pixel or a pixel block in each of the projection areas that have been detected.

16. (Previously Presented) The image processing method as defined in claim 13, further comprising:

detecting a rectangular overlap area which is the overlap area, aspect ratio of which has been adjusted, and

generating, as the correction information, one of information that indicates positions of four corners in the rectangular overlap area and positions of four corners in each of the projection areas, information that indicates the positions of the four corners in the rectangular overlap area, and information that indicates differential values between the positions of the four corners in the rectangular overlap area and the positions of the four corners in each of the projection areas.